

## Child Survival and Healthcare in Developing Countries of Asia

Asia-Pacific Population & Policy summarizes research on population and reproductive health for policymakers and others concerned with the Asia-Pacific region.

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An estimated 11 million children in developing countries die each year before reaching their fifth birthday. Many of these deaths could be prevented. There is concern, however, that major international efforts to improve child survival, initiated in the 1970s, have not been sustained.

In 1990 and again in 2000, representatives from around the world gathered at the United Nations to reaffirm their commitment to improving the lives of children. In 1990, the World Summit for Children adopted a goal to reduce the mortality rate of children under five by one-third or to 70 deaths per 1,000 live births—whichever is less—between 1990 and 2000. Ten years later, the Millennium Summit adopted eight Millennium Development Goals, including a call to reduce under-five mortality by two-thirds between 1990 and 2015.

So how are we doing? This issue of *Asia-Pacific Population & Policy* provides information to help address this question. The focus is on eight developing countries in Asia where Demographic and Health Surveys (DHS) were conducted between 1990 and 2001—Bangladesh, India, Nepal, and Pakistan in South Asia and Cambodia, Indonesia, the Philippines, and Vietnam in Southeast Asia.

The surveys found that child survival is improving in the region. Yet only three countries have brought under-five mortality down to less than 70 deaths per 1,000 live births—Vietnam, the

Philippines, and Indonesia. Many children are still not immunized against the major childhood diseases, many do not receive recommended medical attention, and many show signs of long-term undernutrition.

### SOURCES OF INFORMATION

The findings presented here are from 15 Demographic and Health Surveys conducted between 1990 and 2001 by national research organizations in Asia in collaboration with Macro International, a U.S.-based research firm. The surveys obtained information about child health and child survival from interviews with large, nationally representative samples of ever-married women of reproductive age. The United States Agency for International Development (USAID) provides support for these surveys worldwide.

### CHILD SURVIVAL

Among the eight countries covered by the DHS in Asia, under-five mortality ranged from 38 deaths for every 1,000 live births in Vietnam to 124 deaths in Cambodia (Figure 1). In Cambodia and in the four countries surveyed in South Asia, under-five mortality is still well above the World Summit goal of 70 deaths for every 1,000 live births.

In all five countries with more than one DHS since 1990, under-five mor-

tality has gone down. Death rates went down by approximately 4 percent a year in Bangladesh, 2 percent in India, 5 percent in Nepal, 9 percent in Indonesia, and 2 percent in the Philippines. If these rates of improvement can be maintained, Indonesia, Nepal, and Bangladesh will meet the Millennium Development Goal of reducing under-five mortality by two-thirds over the 25 years from 1990 to 2015. India and the Philippines will not.

The surveys provide information on several aspects of maternal and child healthcare and nutrition that potentially affect mortality rates. These include care during pregnancy and childbirth, immunization, treatment of children who are ill, and childhood nutrition.

## CARE DURING PREGNANCY AND CHILDBIRTH

To promote the well-being of mothers and their children, maternal and child health programs encourage women to give birth with assistance from trained health personnel and in a health facility. Health personnel can be doctors, nurses, midwives, or trained birth attendants, and the facility can be a public or private hospital or clinic.

Vietnam and the Philippines—with the lowest under-five mortality rates—are the only Asian countries covered by the DHS in which more than half of deliveries are assisted by trained health personnel (Figure 2). Nepal and Bangladesh have particularly low proportions of women giving birth with assistance from trained personnel.

Vietnam is the only country in which more than half of deliveries take place in a health facility—at 62 percent. The next highest proportion of deliveries in a health facility is 34 percent in the Philippines. In Bangladesh and Nepal, fewer than one in 10 deliveries occur in a health facility.

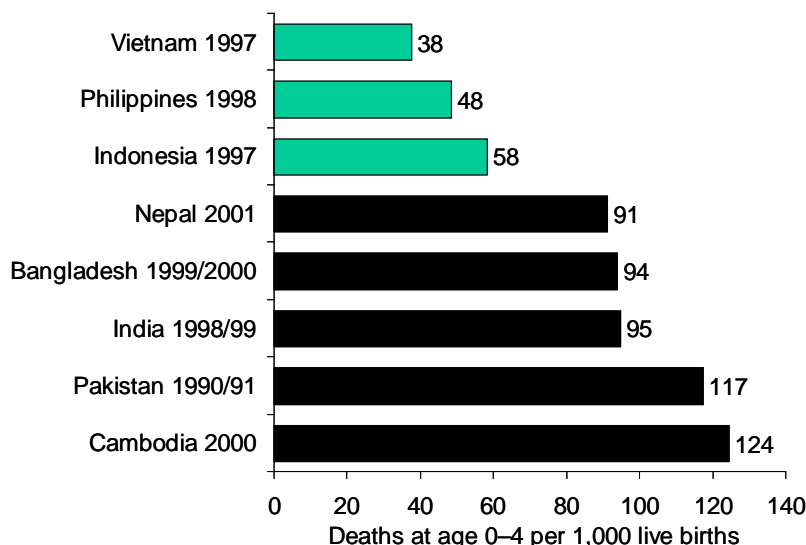


Figure 1 Under-five mortality in the five years before the most recent DHS

Source: Statistics from the Demographic and Health Surveys are available on the Measure DHS+ website at <http://www.measuredhs.com>. Full copies of the most recent survey reports and related publications may be downloaded or ordered from the site.

Another key component of maternal and child health programs is tetanus immunization for pregnant women. In developing countries, tetanus is an important cause of death among infants under one month of age. Tetanus infection in newborns can be prevented by immunizing mothers during early pregnancy. Contrary to research findings at the individual level, however, national-level DHS results in these eight

countries do not detect a strong correlation between tetanus immunization of mothers and mortality rates of newborn children.

## CHILD IMMUNIZATION

Immunization against six deadly but preventable diseases—tuberculosis, diphtheria, pertussis, tetanus, poliomy-

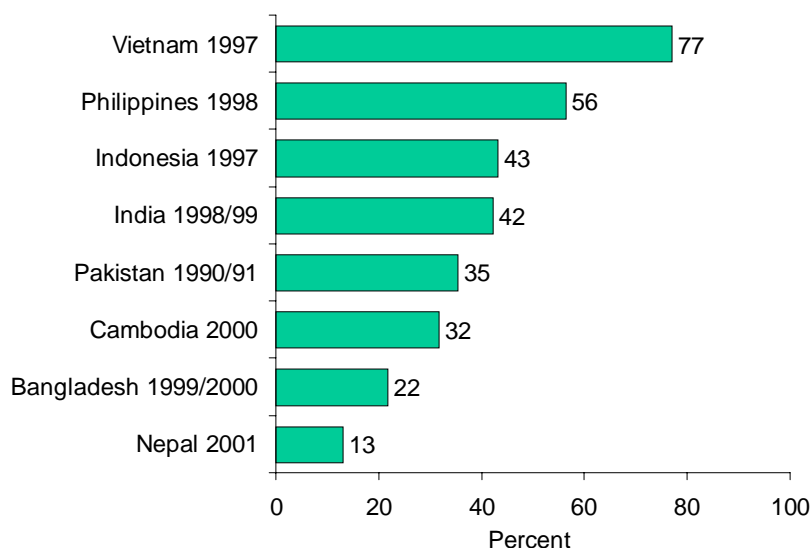


Figure 2 Percent of births in the three years before the most recent DHS that were assisted by a doctor, nurse, midwife, or other trained health professional

Source: See Figure 1.

elitis, and measles—is one of the most cost-effective interventions available to national health systems. One goal of the 1990 World Summit for Children was to achieve or maintain full immunization coverage of at least 90 percent of children under one year old by 2000.

None of the Asian countries covered by the Demographic and Health Surveys has met this target (Figure 3). Interestingly, full immunization rates are high in Nepal and Bangladesh, countries that do not rank particularly high on other measures of child healthcare. Immunization rates are lowest in Pakistan, Cambodia, and India.

In the five countries with more than one survey, trends over time have been mixed. In Indonesia, full immunization rates went down—from 65 percent in 1991 to 55 percent in 1997. In the Philippines, rates stagnated, while in Bangladesh, India, and Nepal, they went up. The improvement was particularly striking in Nepal—from 36 percent in 1996 to 60 percent in 2001.

## TREATMENT OF CHILDREN WHO ARE ILL

Throughout the world, acute respiratory infection (ARI), primarily pneumonia, is the most important cause of death among young children. The symptoms of ARI are cough accompanied by short, rapid breathing. The medical recommendation is to take a child suffering from these symptoms to a health facility or provider for diagnosis and treatment with antibiotics.

In three countries, about two-thirds of children who showed symptoms of ARI during the two weeks before the survey were taken to a health facility or provider for treatment—Vietnam, Indonesia, and Pakistan (Figure 4). The percentage of such children taken for treatment was much lower in Nepal, Bangladesh, and Cambodia.

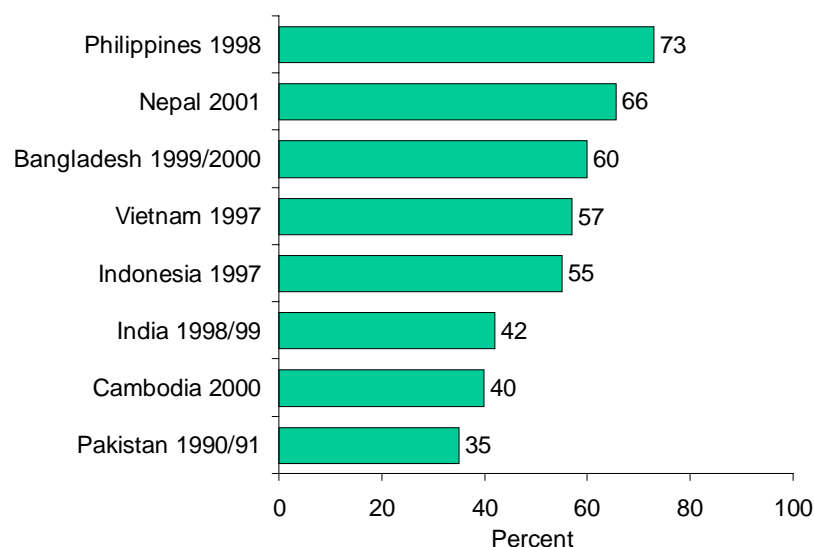


Figure 3 Percent of children age 12–23 months who received all recommended immunizations

Source: See Figure 1.

Diarrhea is the second most important killer of young children. When a child suffers diarrhea, recommendations for treatment include giving increased fluids plus a solution made from clean water and an oral rehydration salt (ORS) packet. A homemade rehydration solution is sometimes rec-

ommended if the packets are not available. In Indonesia, the Philippines, and Bangladesh, more than four out of five children who were ill with diarrhea during the two weeks before the survey were given at least one of the recommended oral rehydration treatments (Figure 5). In India and Nepal, fewer

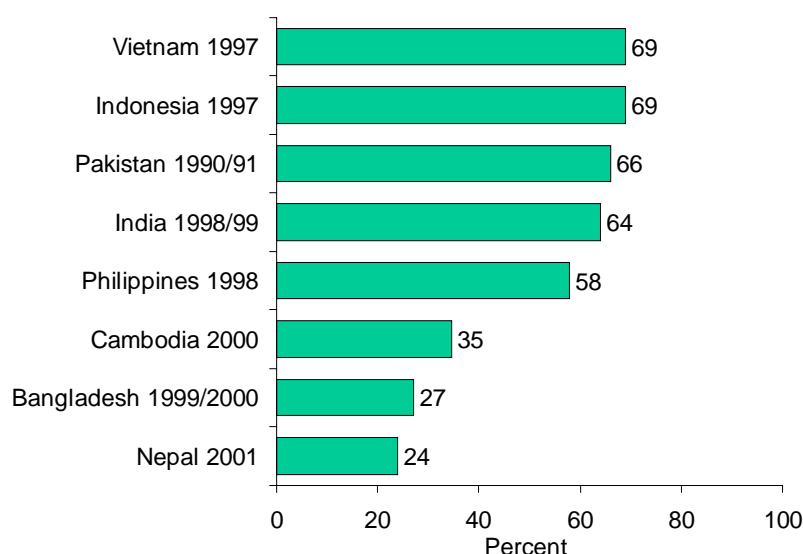


Figure 4 Among children under age 5 who were ill with a cough and fast breathing during the two weeks before the survey, percent who were taken to a health facility or provider

Source: See Figure 1.

Note: In India and Vietnam, information on treatment of ARI was collected for children under age 3. In Cambodia, information was collected on treatment of children with symptoms of ARI and/or fever.

than one-half of such children received a recommended treatment.

## NUTRITIONAL STATUS

Good nutrition is a major determinant of a child's health and well-being. In five of the Asian countries covered by Demographic and Health Surveys—Bangladesh, Cambodia, India, Nepal, and Pakistan—nutritional status was assessed based on the age, weight, and height of all children under age three.

The surveys found widespread child undernutrition in all five countries. In terms of weight for age, a composite measure that takes into account both long- and short-term undernutrition, four to five out of every 10 children under age three are undernourished (more than two standard deviations below the median for an international reference population recommended by the World Health Organization). More than one out of 10 children under age three is severely undernourished (three standard deviations below the median).

## POLICY IMPLICATIONS

Although national-level rankings are not entirely consistent, a comparison of under-five mortality in eight developing countries of Asia suggests the importance of selected health interventions. The three countries with the lowest under-five mortality rates—Vietnam, the Philippines, and Indonesia—rank the highest in terms of trained assistance during childbirth. These three countries, together with India, also rank highest in the proportion of births that occur in a public or private health facility. Two out of three of these countries rank highest in terms of treatment of children who are ill with ARI or diarrhea, and one (the Philippines) ranks highest in child immunization.

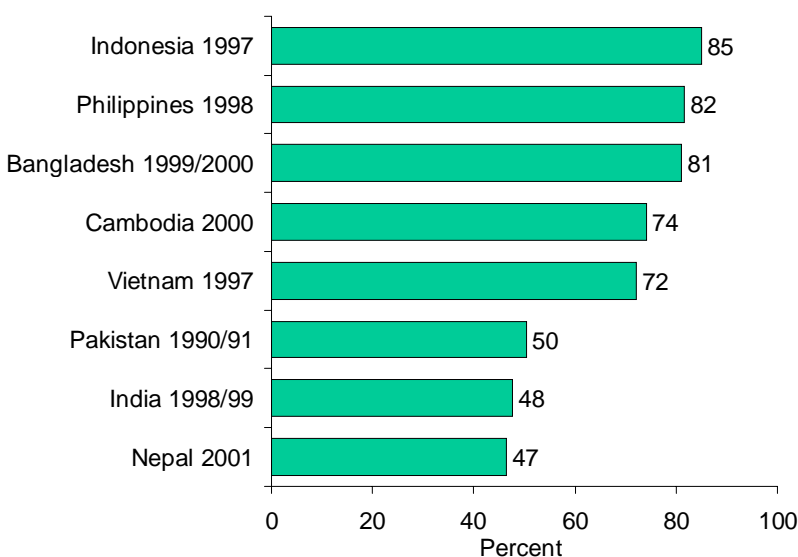


Figure 5 Among children under age 5 who had diarrhea during the two weeks before the survey, percent who received any type of oral rehydration therapy

Source: See Figure 1.

Note: In India and Vietnam, information on treatment of diarrhea was collected for children under age 3.

What are the messages for policy-makers? One is that special policy and program efforts can make a difference. Nepal, for example, ranks the lowest in three measures of maternal and child healthcare but is second highest in child immunization. Over a period when child immunization coverage was stagnating in other countries or even going down, the percentage of children age 12–23 months who were fully immunized in Nepal nearly doubled. The Nepal 2001 DHS attributes this success to “intensive national immunization day campaigns.”

Bangladesh comes right after Indonesia and the Philippines in the correct treatment of childhood diarrhea. The International Center for Diarrheal Disease Research, Bangladesh (ICDDR,B) “invented” oral rehydration therapy more than 30 years ago, and the Center and other groups work actively to educate Bangladeshi mothers on diarrhea prevention and treatment.

Overall health expenditures also make a difference. The two countries with the lowest under-five mortality rates—Vietnam and the Philippines—

spend the most per capita on health-care. The Philippines spent US\$167 per capita (at purchasing power parity) in 2002, and Vietnam spent US\$130 ([http://www.undp.org/hdr2003/pdf/hdr03\\_HDI.pdf](http://www.undp.org/hdr2003/pdf/hdr03_HDI.pdf); accessed 6 October 2003). In contrast, Nepal spent US\$64 per capita, and Bangladesh spent US\$47. In all the Asian countries covered by the DHS, foreign assistance also plays an important role in providing health-care to children.

And finally, a comparison of under-five mortality and fertility rates in these eight countries supports other findings suggesting that “family planning saves lives.” At the time of the most recent surveys, Vietnam and Indonesia had the lowest total fertility rates of the eight countries, at 2.7 and 2.8 children per woman, respectively. This is the number of children a woman would bear during her reproductive years at current age-specific fertility rates. The highest total fertility rates—at more than four children per woman—were recorded in Pakistan, Nepal, and Cambodia, countries that also had relatively high under-five mortality.